

**Notice of Allowability**

Application No.

09/601,540

Examiner

James R. Brittain

Applicant(s)

TOMANEK ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the interview of August 15, 2006.
2. ☒ The allowed claim(s) is/are 1,70,71,73,24-27,35,36,39-42,44-47,50,51,57,58,61-65 & 85-87; renumbered 1-30, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.  |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Monte L. Falcoff on August 15, 2006.

The application has been amended as follows:

Abstract, line 2, "The present invention" has been changed to --This application--;

Line 5, "in accordance with the teachings of the present invention" has been deleted; and

Claims 28, 29, 48 and 49 have been cancelled.

The following is an examiner's statement of reasons for allowance:

Ihara et al. (US 5464987, figure 10) is the closest art of record and teaches a microfastener system comprising a first fastening element comprising two nanotubes, each comprising a half torus, secured to a lower substrate comprising the two surfaces facing upward interengaging with a second fastening element comprising two nanotubes, each comprising a half torus, secured to an upper substrate comprising the two surfaces facing downward. The nanotubes are mechanically interconnected.

Claim 1 recites a microfastening system and in particular "the non-linear nanotubes of the first and second fastening elements each having a first end and a second end, the non-linear nanotubes of the first and second fastening elements each being attached at the first end to and

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extending from said attachment surface, wherein the second end is free of the surface” (lines 5-8). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the substrate and therefor fail to have a second end of the nanotube free of the attachment surface. To modify the fastener of Ihara et al. to have such structure would destroy loops and destroy the added security that the joined loops provide to the fastener of Ihara et al. There is no suggestion to modify the device of Ihara et al. to have such structure in combination with the other limitations of the claim.

Claim 24 recites a microfastening system and in particular “wherein said nanotubes of at least one of said fastening elements are selectively deformable; whereby upon joining said first and second fastening elements, the extending nanotubes from each element become mechanically interconnected, wherein said fastening elements are reusable” (lines 3-7). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the substrate, and as the nanotubes form loops, the nanotubes would break if the substrates are separated so the fastening elements do not possess the characteristic of being reusable. To modify the fastener of Ihara et al. to have such structure would destroy loops and destroy the added security that the joined loops provide to the fastener of Ihara et al. There is no suggestion to modify the device of Ihara et al. to have such structure in combination with the other limitations of the claim.

Claim 35 recites a method of manufacturing a microfastener and in particular “introducing a plurality of open ended selectively deformable non-linear nanotubes to said substrate, each nanotube with a means for fastening, whereby said nanotubes are attracted to said attachment surface and become affixed thereto, wherein said microfastener is reusable” (lines 4-6). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the

substrate, and as the nanotubes form loops, the nanotubes would break if the substrates are separated so the microfastener does not possess the characteristic of being reusable. To modify the fastener of Ihara et al. to have such structure would destroy loops and destroy the added security that the joined loops provide to the fastener of Ihara et al. There is no suggestion to modify the method of Ihara et al. to have such a step that would create a reusable microfastener.

Claim 44 recites a microfastening system and in particular “at least some of which comprise nanotubes selected from the group consisting of a) hooks, and b) spirals” (lines 3-6). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the substrate, and as the nanotubes form loops for added security of connection, there is no suggestion to modify the nanotubes to form hooks or spirals as such a configuration would destroy the loops of the fastener of Ihara et al. and the secure connection that the loops provide.

Claim 57 recites a method of manufacturing a microfastener having nanotubes with two ends and in particular “introducing a plurality of open ended nanotubes to said substrate, each nanotube with a means for fastening, whereby said nanotubes are attracted to said attachment surface and become affixed thereto, wherein at least some of the nanotubes become affixed at only one end, wherein said microfastener is reusable” (lines 4-7). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the substrate, and as the nanotubes form loops, the nanotubes would break if the substrates are separated so the microfastener does not possess the characteristic of being reusable. To modify the fastener of Ihara et al. to have such structure would destroy loops and destroy the added security that the joined loops provide to the fastener of Ihara et al. There is no suggestion to modify the method of Ihara et al. to have such a step that would create a reusable microfastener.

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Claim 85 recites a microfastening system and in particular “wherein extending nanotubes on both fastening elements are disposed so as to remain permanently fixed to their respective fastening elements during the action of advancing the elements toward each other, wherein the extending nanotubes comprise hooks or spirals” (lines 7-9). The nanotubes of the device of Ihara et al. form loops with the attachment surface of the substrate, and as the nanotubes form loops for added security of connection, there is no suggestion to modify the nanotubes to form hooks or spirals as such a configuration would destroy the loops of the fastener of Ihara et al. and the secure connection that the loops provide.

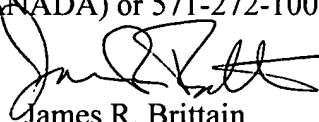
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James R. Brittain whose telephone number is (571) 272-7065. The examiner can normally be reached on M-F 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, J. J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



James R. Brittain  
Primary Examiner  
Art Unit 3677

JRB